



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

In conclusion, the author remarks, that induction appears to be essentially an action of contiguous particles, through the intermediation of which the electric force originating or appearing at a certain place, is propagated to or sustained at a distance, appearing there as a force of the same kind and exactly equal in amount, but opposite in its direction and tendencies. Induction requires no sensible thickness in the conductors which may be used to limit its extent, for an uninsulated leaf of gold may be made very highly positive on one surface, and as highly negative on the other, without the least interference of the two states, as long as the induction continues. But with regard to dielectrics, or insulating media, the results are very different; for their thickness has an immediate and important influence on the degree of induction. As to their quality, though all gases and vapours are alike, whatever be their state, amongst solid bodies, and between them and gases, there are differences which prove the existence of specific inductive capacities.

The author also refers to a transverse force with which the direct inductive force is accompanied. The experimental proof of the existence of such a force, in all cases of induction, is, from its bearing on the phenomena of electro-magnetism and magneto-electricity, of the highest importance; and we cannot but look forward with the greatest interest to the promised communication in which these and other phenomena relating to this subject will be reviewed.

January 18, 1838.

FRANCIS BAILY, Esq., Vice-President and Treasurer,
in the Chair.

Bryan Donkin, Esq.; Sir John Jacob Hansler; the Rev. George Henry Sacheverell Johnson, M.A.; and George Richardson Porter, Esq., were severally elected Fellows of the Society.

“On the Variation of a Triple Integral.” By Richard Abbott, Esq. F.R.A.S. Communicated by Benjamin Gompertz, Esq., F.R.S.

In the calculus of variations, the discovery of which has immortalized the name of Lagrange, that illustrious mathematician, by differentiating the function with respect to a new variable which enters into it, reduced the general problem of indeterminate maxima and minima to the solution of an equation depending on the variation of the given integral, whether single or multiple, and whose differential coefficient contains any number of variables, or which even depends on other integrals. The author investigates, in the present memoir, the case in which the given function is a triple integral; its variation being composed of two distinct parts, namely, a triple integral and another part, the determination of which must be sought from the limits of the triple integral.

“Explanation of the Phenomena of Intermitting Springs.” By